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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/434,575	11/04/99	DEACON D	SPK-002

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EXAMINER	
JACKSON, C	
ART UNIT	**PAPER NUMBER**
2881	

DATE MAILED: 07/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/434,575	David A. G. Deacon	
	Examiner	Art Unit	
	Cornelius H. Jackson	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) *36-51* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15)☒ Notice of References Cited (PTO-892)
16)☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
18)☐ Interview Summary (PTO-413) Paper No(s). _____ .
19)☐ Notice of Informal Patent Application (PTO-152)
20)☐ Other: .

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention: laser or waveguide device having an intracavity waveguide segment characterized by an effective refractive index profile and a waveguide device having a coupling waveguide segment characterized by a first frequency dependent coupling constant.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record

showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Mark Protsik on 30 April 2001 a provisional election was made without traverse to prosecute the invention of laser or waveguide device having an intracavity waveguide segment characterized by an effective refractive index profile, claims 1-35. Affirmation of this election must be made by applicant in replying to this Office action. Claims 36-51 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The disclosure is objected to because of the following informalities: The brief summary and description should be confined to invention to which claims are directed. See 37 CFR 1.71, 1.73 and MPEP 1302.01.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brinkman et al. (6167169). Brinkman et al. disclose a method of adjusting a resonant cavity of a laser device comprising operating the laser device to produce an optical output; monitoring the optical output to determine the free spectral range of the laser device; and permanently modifying the effective refractive index of at least a portion of the intracavity waveguide segment, **see col. 2, line 37 through col. 4, line 31 and all throughout the document**. Brinkman fail to disclose the degree of the free spectral range being substantially equal to the predetermined rational fraction of a specified frequency channel spacing over a portion of an operating frequency band, but Brinkman does disclose making the free spectral range equal to the channel spacing plus a few times the frequency width, **see col. 45, line 59 through col. 46, line 4**, therefore it

would have not been inventive since it has been held where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

In regards to claim 2, Brinkman et al. teach modifying the effective refractive index comprises illuminating the waveguide with an energy beam, **see col. 2, lines 37-49**.

In regards to claim 3, it would have been obvious to one of ordinary skill in the art that electromagnetic radiation in the form of ultraviolet radiation and induced chemical alteration in the intracavity waveguide segment is suggested in the disclosure of Brinkman et al.

In regards to claim 4, Brinkman et al. teach the waveguide segment comprises a polymer structure and crosslinking in the polymer material, **see col. 17, lines 20-38**.

In regard to claims 5-6, Brinkman et al. teach all the stated limitations, **see col. 60, line 61 through col. 61, line 12**.

In regard to claims 7-9 and 12-15, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

In regard to claims 10-11, Brinkman et al. teach all stated limitations, **see col. 33, lines 28-65**.

In regards to claim 16, Brinkman et al. teach all stated limitations, **see col. 6, lines 55- 65**.

In regards to claim 17, it is obvious that the invention claimed in claim 1 employs the waveguide device claimed in claim 17. Therefore the rejection of claim 1 holds also on claim 17.

In regards to claim 18, also see claim 2 above.

In regards to claim 19, also see claim 3 above.

In regards to claim 20, also see claim 4 above.

In regards to claim 21, also see claim 5 above.

In regards to claim 22, also see claim 6 above.

In regard to claims 23-25 and 26-29, also see claims 7-9 and 12-15 above.

In regard to claims 30-32, also see claim 3 above.

In regards to claim 33, Brinkman et al. teach phase matching, **see col. 24, line 55 through col. 25, line 14**.

In regards to claim 34, Brinkman et al. teach temperature control, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a heater element disposed adjacent to the index grating if so desired as an obvious design choice, **see claims 7-9 and 12-15 above**.

In regards to claim 35, also see claim 16 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cornelius H. Jackson whose telephone number is (703)306-5981. The examiner can normally be reached on 8:30 - 4:00, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa M. Arroyo can be reached on (703)308-4782. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7722 for regular communications and (703)308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

chj
July 2, 2001

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